

Growing Houses: Fusing Nature and Culture in the Early Twentieth Century

Sonja Dümpelmann

Linguists have suggested that in the Indo-Germanic languages ‘building’ and ‘growing’ share etymological roots. Furthermore, it is no coincidence that the German word for tree, *Baum*, which has been documented as existing since the eighth century, can be traced back to the West Germanic *bauma* and the Old English word *bēam*. These referred both to a ‘beam’ and to a ‘tree’. As if giving physical expression to these shared origins, in the 1920s the German garden architect Arthur Wiechula (born Wichulla) proposed to literally cultivate houses using fast-growing tree species such as poplars or other species depending on site conditions. As quirky and unrealistic as it may seem today, this was hardly a new idea in the early twentieth century. It is also a concept that architects have returned to more recently.

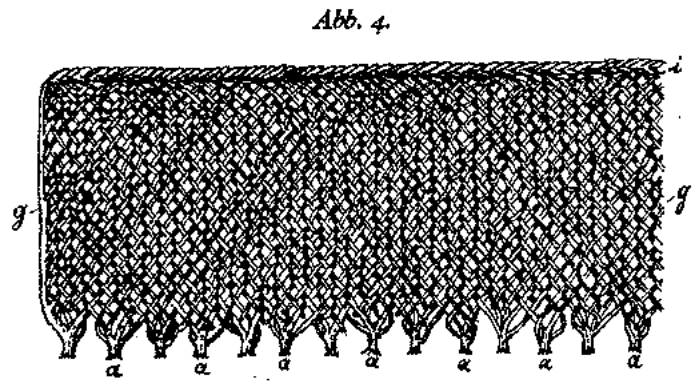
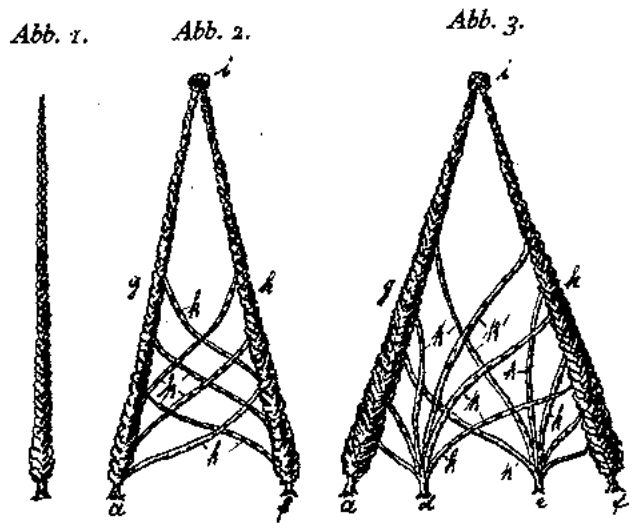


The hypothesis of architecture's vegetal origins has captivated the imagination of architectural theorists since Vitruvius in the first century BCE. It famously inspired the eighteenth-century French Jesuit Abbé Marc-Antoine Laugier to declare the primitive hut consisting of tree trunks and branches as a prototype for basic rational architectural principles (Rykwert 1972). Today, researchers at the Technical University Munich are seeking to harness trees' physiological processes, material and growth in the creation of built structures, not dissimilar to what Wiechula envisioned one hundred years ago and referencing his work (Ludwig and Schoenle 2022). Developed in early twentieth-century Germany, characterized by the politics of austerity, efficiency, internal (and external) colonization, nationalism and globalization, Wiechula's ideas literally enlisted nonhuman nature as collaborator.

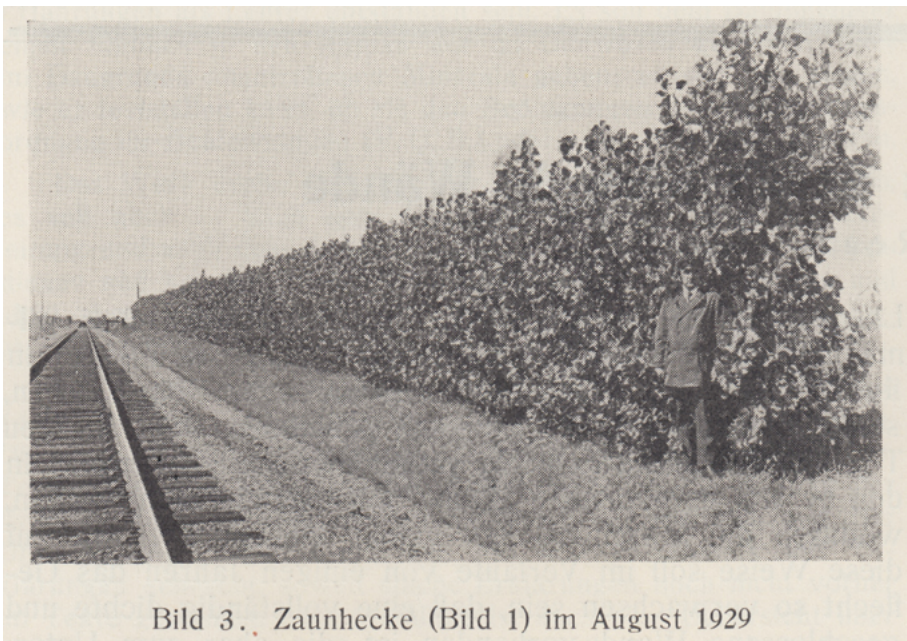
Wiechula self-published his ideas for 'growing houses' (*wachsende Häuser*) in 1926, after he had patented designs for growing snow fences, creating walls out of living wood, connecting tree parts and for a special tree clip to facilitate the growing-together of wood.¹ In that same year, the German National Railway, which was swiftly developing into a technologically and economically successful state-owned enterprise, planted a test strip of Wiechula's snow fence in Barleben near Magdeburg. The tender branches of young trees placed at regular intervals parallel to the railroad were interwoven to create a dense thicket and to fuse together. Three years later, the experiment was reported as having produced promising results (Renz 1930). As self-proclaimed 'nature building engineer' (*Naturbau-Ingenieur*), Wiechula refuted critics who considered his fences too labour intensive, expensive as well as ineffectual, and who argued for more conventional lattice or new concrete fencing (Richter 1929; Schneider 1929; Sieh 1929).

Ingenhoven Architects,
hornbeam hedges
creating the facades of
Kö-Bogen II in Düsseldorf.
 Photo: ingenhoven
 architects / HGEsch

¹ Deutsches Reich, Patentamt, Patentschriften nos. 386940, 433298, 459870, 459996.



Arthur Wiechula,
 illustration of a snow
 fence made out of woven
 shrubs, patented 1 April
 1922.
 Deutsches Reich,
 Patentamt, Patentschrift,
 no. 386940:
 Schneeschutzzaun aus
 verflochtenen Pflanzen.



Test strip of Wiechula's
 snow fence along the
 railway line in Barleben
 near Magdeburg, 1929.
 Renz 1930: 86.

Instead, he advertised his snow fences as denser and more compact than natural hedgerows. Furthermore, after the initial work of planting and weaving, the beautiful living fences would maintain themselves, while regular pruning could also produce valuable firewood.

Although the snow fences were the most pervasive and long-lasting of his few planted (infra)structures, Wiechula's imagination encompassed a world in which bridges, station roofs, covered walkways, toolsheds, stables, barns and even houses would be grown out of trees. He illustrated this fantastical realm in elaborate drawings while explaining the physiological processes that, according to him, would make it possible. 'Nature buildings' (*Naturbauten*) were not only beautiful, less susceptible to fire and earthquakes, but also provided health benefits (Wiechula 1926: 286–92). First and foremost, however, they were producers rather than consumers of material. The economy of nature was central to Wiechula's idea of nature buildings. In contrast to conventional built structures, growing houses consisted of living substance continuously producing value. From the minute they were planted they increased the land value through their beauty and wood production, and even after many years maintenance costs would be low (Wiechula 1926: 40). Wiechula used this argument to refute criticisms about the time it would take to grow the structures. As a landscape gardener he knew all too well that time stood in the way of the gardener's art being considered on a par with the art of building (Wiechula [Wichulla] 1902: 33–34). Also trained in fruit-growing and horticulture, he was well versed not only in pruning, grafting and creating espaliers, but also in tree and especially plantation economics, even publishing an entire volume on the subject (Wiechula [Wichulla] 1905). Wiechula had experimented with nature

Arthur Wiechula, garden fence and covered walkway grown out of trees.

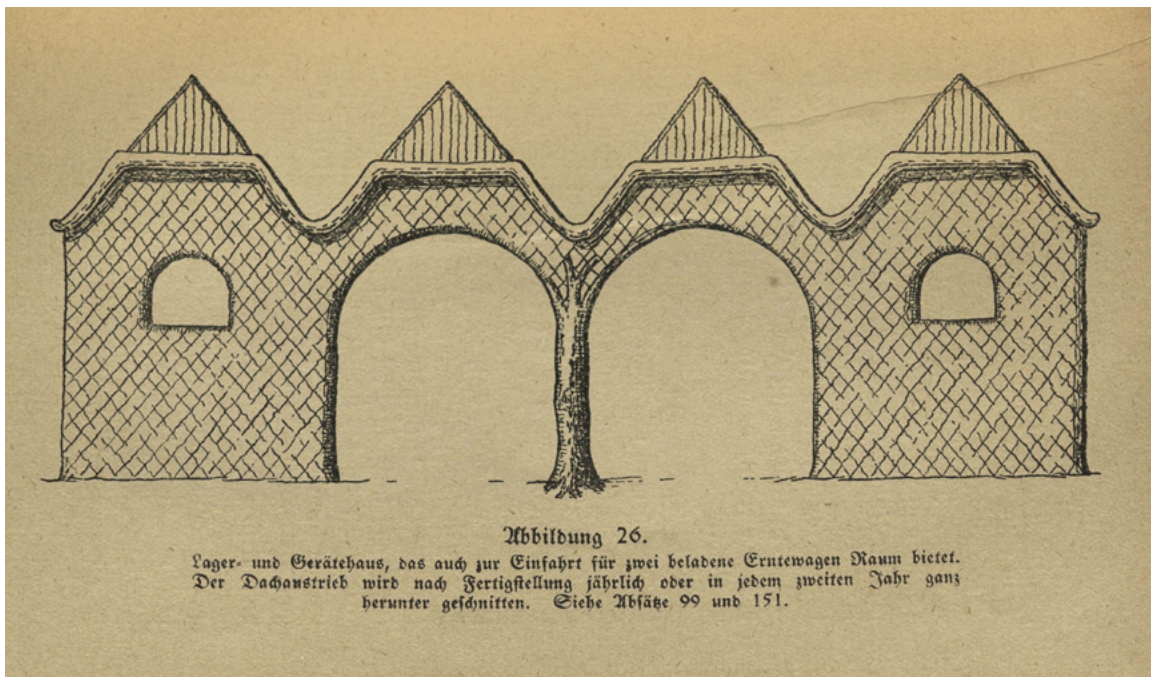
Wiechula 1926: 137.



buildings before the First World War but asserted that it took the postwar scarcity of materials and the turmoil in the mortgage market to induce him to share his thinking more widely (Wiechula 1926: 286–87). As products of both nature and culture, nature buildings developed by pairing the force of nonhuman nature with human manual labour and scientific expertise (Wiechula 1926: 303). Although he liked to emphasize their innovative character, Wiechula's general ideas about employing plants' life force in utilitarian construction and engineering efforts were not without precedent. Vegetation and environmental engineering technologies – today often referred to as nature-based solutions – had already been used for centuries, for example in riverine erosion control, coastal land reclamation and the construction of roads.

Wiechula's ideas were further disseminated by the publication of *Holzhäuser unter Mitwirkung der Natur* ('Woodhouses in cooperation with nature', 1927) in a popular series of handbooks entitled *Wie baue ich mir selber?* ('How do I build for myself?'). As suggested by its attenuated title, woodhouses were a popularized, condensed version of growing houses. The ideas also made it into the review pages of major horticultural and gardening journals, but many contemporaries remained sceptical of the high-flying proposals and of what – according to one reviewer – promised to become aesthetic 'monsters' (Anon. 1926a). Another reviewer saw his doubts legitimized by the lack of photographic evidence. The concept simply appeared too unrealistic (Anon. 1926b). Wiechula's overbearing self-promotion did not help his cause, and many either cast him off as self-interested impostor, or more benevolently as an unrealistic optimist (Steffen 1921). The private limited company he ran in the 1920s from his home in Berlin-Friedenau ultimately collapsed and his patents were acquired by the Neulohe company, which throughout the 1930s concentrated on the production of living (snow) fences for railroads (Herr 1931, 1933a and 1933b).

Arthur Wiechula, growing storehouse and toolshed. Wiechula 1926: 109.



Wiechula's utopian ideas were infused with romanticism and displayed a vernacular techno-optimism. His nature buildings were literally and figuratively grounded in their respective site and environmental context, while also based on a belief in human progress and the triumph of scientific invention. Consequently, he made sure to patent his putative inventions, be it a living snow fence or a special check valve for water supply and drainage systems (Wiechula [Wichulla] 1902: 16). Besides their use in Germany's infrastructural development, Wiechula also planned for his nature building technologies to be employed in cooperative settlements. Jumping on the wave of Imperial Germany's settlement movement and internal colonization, Wiechula had since the turn of the century promoted the conversion of old estates into self-sustaining small-farm cooperatives, an idea that in 1920 he considered best supported by the Großdeutsche Freiheitspartei (Greater German Freedom Party), a small völkisch party that shortly thereafter united with the national-liberal Deutsche Volkspartei (German People's Party).² In contrast to other settlement concepts redolent with antiurban sentiment, Wiechula sought to attract members from all classes, claiming that a move back to nature did not have to imply a move away from culture and civilization (Wiechula 1916: 50).

² Advertisement for the party on the last page of Wiechula 1920.

The fusion of nature and culture was key to Wiechula's philosophy, including his belief in a linear concept of progress and development. In this theory, horticulture – including fruit-growing and growing houses – was the most civilized form of cultivation. It trumped agriculture because it was the most efficient, productive and beautiful form of land use (Wiechula [Wichulla] 1902: 1–19). This was a convenient and perhaps even instrumental argument at a time when state officials, first during the German Empire and then the Weimar Republic, were using land parcelling and settlement to aggressively 'Germanize' and 'civilize' large parts of what they called Prussia's Eastern Territories (Conrad 2014). The large-scale agriculture of former Polish estates there would be replaced with what Wiechula suggested was a more 'civilized' fine-grained garden culture of the German settlers. The inherent contradictions in his arguments for free trade and colonization as harbingers of world peace and the overcoming of purported racial difference eluded Wiechula, as it did many of his contemporaries (Wiechula [Wichulla] 1905: 53–54, 230–31). His was a fantastical world built in cooperation with nature and in which human and nonhuman organisms would live in harmony.³

³ Wiechula 1916: 15, 25; Anon. 1926b.

Wiechula's growing houses were themselves organisms and an extreme manifestation of what anthropologist Tim Ingold would later call a "dwelling perspective" on architecture. By this Ingold means that all humans build, through processes of inhabiting or dwelling in their environment (Ingold 2000: 185–88). The form of an oak tree, which due to its ecological relationships has transformed throughout its evolution, is for Ingold "no more given, as an immutable fact of nature, than is the form of the house an imposition of the human mind" (2000: 187). He suggests that the distinction between the form-giving processes of tree and house are relative, depending on the extent of human involvement. Decades before, Wiechula had sought to merge the two, fusing nature and culture. His growing houses, whether as a crafty business idea, an expression of personal belief or a utopian vision, can also be seen to reverberate in aspects of some of today's green architecture.

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